

THE EFFECTS OF EARLY RECRUITING ON NCAA DIVISION I VOLLEYBALL STUDENT-ATHLETE RETENTION

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ABSTRACT

Robert C. Hunter Jr.: The Effects Of Early Recruiting On NCAA Division I Volleyball Student-Athlete Retention
(Under the direction of Barbara Osborne)

Division I women's volleyball currently harbors two increasing trends. First, there are more and more student-athletes who are committing to their institution more than 24 months before August of their freshman year. Second, the number of student-athletes that transfer each year is steadily increasing. Coaches have already publicly equated the two trends, citing early commitment and the negatives that come with it as hindering their ability to retain high-level athletes. This study, however, analyzed 6,404 Division I volleyball student-athletes who committed between 2005-2010 and found that early commitment is not significantly predictive or influential to be the main cause of student-athlete transfers or drop-offs.

To my family, especially my parents, who have loved me, guided me and supported me so that I
may chase my dreams.

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LIST OF ABBREVIATIONS AND SYMBOLS

GPA	Grade Point Average
NCAA	National Collegiate Athletic Association
NLI	National Letter of Intent
PSA	Prospective Student-Athlete
RPI	Ratings Point Index
SPSS	Statistical Package for the Social Sciences
α	Alpha

CHAPTER I INTRODUCTION

Introduction

Consistently, the most essential factor for the success of collegiate athletic programs is identified as recruiting (Day, 2011; Howat, 1999; Kankey and Quarterman, 2007; Teeple, 2005). College coaches devote extensive amounts of time and sections of their budget to achieve high-level recruiting success, often traveling around the country year-round to evaluate prospects, build relationships with junior coaches, and gain commitments for upcoming classes. NCAA institutions award more than \$2.4 billion in scholarships to over 150,000 athletes each year (NCAA 2013). In many sports, there is no significant downtime for coaches, because when the season ends, coaches transition directly to recruiting, if they ever were able to downplay it at all.

Institutions value successful athletics programs because of the revenue generation athletic departments may potentially generate (Day, 2011; Howat, 1999; Kankey and Quarterman, 2007; Teeple, 2005). There have been several studies that highlight the relationship between successful, nationally prominent athletics programs and an increase in applications at universities (Fulks 2005; Mathes and Gurney, 1985; Mixon, Trevino, and Minto, 2004; Toma and Cross, 1998). Therefore, there is immense pressure on coaches to recruit, develop, retain and graduate elite athletes that contribute to department success on a national level (Huffman, 2011).

For prospective student-athletes, there is a similar investment of time and money in the recruiting process. Junior sports have seen an increase in year-round participation and specialization thanks to the proliferation of club teams in many parts of the country.

In sports such as girl's soccer, lacrosse, and volleyball, athletes begin the recruiting process as early as seventh or eighth grade (Popper, 2014). According to a report provided for the *New York Times* by the National Collegiate Scouting Association (N.C.S.A.), 36% of women's lacrosse and 24% of women's soccer athletes commit to institutions before the official recruiting process under NCAA guidelines even begins (Popper, 2014). Anson Dorrance, one of the early innovators of recruiting and evaluating young athletes, is leading the recent charge of coaches pushing back against the practice:

It's killing all of us. If you can't make a decision on one or two looks, they go to your competitor, and they make an offer. You are under this huge pressure to make a scholarship offer on their first visit. It's killing the kids that go places and don't play. It's killing the schools that have all the scholarships tied up in kids who can't play at their level. It's just, well, it's actually rather destructive (Popper, 2014).

Dorrance, who has won 22 national championships as the head women's soccer coach at the University of North Carolina, was observed and interviewed while attending a soccer tournament in Florida in January, less than two months after his 2013 season ended. The event brought together 158 teams and over 600 college coaches to evaluate prospective athletes as young as eighth grade (Popper, 2014). Many of those 600 coaches, including Dorrance himself, spent their time focusing on the fields with eighth and ninth grade athletes, signaling that

although many coaches are pushing back against the early recruiting practice, they are in fact driving the trend themselves (Popper, 2014).

Although specific research into the ill effects of early recruiting is limited, those involved in the process have voiced concerns over the practice and its effects on athletes. From the perspective of a club director, the loss of an opportunity for an official visit to impact the recruiting process is significant (Kern, 2005). According to NCAA regulations, a prospective student-athlete may not have a visit paid for by an institution until their senior year of high school (NCAA, 2014). An official visit helps “re-level the playing field” for athletes from all socioeconomic backgrounds, whereby each athlete can visit a school no matter their financial situation (Kern, 2005). Prospective student-athletes may visit before their senior year, but they have to pay for the trip entirely on their own, which may disqualify many athletes based on financial status.

Although vague, many coaches decry psychological and physical pressures placed on student-athletes due to the early recruiting process. Young athletes are specializing earlier in their sport, causing significant stress on their bodies and resulting in burnout later in their careers. The pressure of high-level competition also mentally stresses athletes, and many parents and coaches report breakdowns in their athletes because of the recruiting process (Popper, 2014).

On the other hand, the high-profile nature of a young recruit committing as an eighth or ninth grader can provide benefits. For programs, it increases their notoriety and publicity in an age where recruiting coverage is exploding (Teeples, 2005). For the athletes, the opportunity to finish the recruiting process and enjoy their time in high school is an extreme positive. In Popper’s 2014 *New York Times* article, committed ninth-grader Kyla McKeon says, “I just love being done with it”.

The risk of such an early commitment arises when a student-athlete's progression or a program's vision no longer match two or three years later. As Dorrance notes, student-athletes may still attend and sit the bench during their time at an institution (Popper, 2014). There is also the possibility that their verbal commitment will not be honored. The verbal commitment is non-binding until the prospective student-athlete signs a National Letter of Intent (NLI).

In NCAA Division I volleyball, there have been high-profile instances of this occurring. Kelli Browning was informed of her verbal offer to Wisconsin being rescinded by email from then-Head Coach Pete Waite. Waite removed the offer because "he didn't think I [Browning] was making the progress necessary" (Stewart, 2010). Browning committed to the Badgers as a sophomore in high school, then was forced to reopen her recruiting late in the process as a senior.

Another option for student-athletes who are in a sub-optimal situation is to choose to transfer. Division I women's volleyball has seen a notable increase in transfers over the past four years. In 2010, there were 94 student-athletes who chose to transfer; in 2013, there were 266 student-athletes who changed institutions, according to RichKern.com. Athletes choose to transfer for a multitude of reasons, including playing time, social connections, academics, and precollege factors (Cooper and Hawkins, 2014; Wawrzynski, 2003; Williams 2007). Many coaches are making the connection between the increasing number of early-commitments among athletes and the rising number of transfers. The question is if there is data to support this claim, especially since coaches, administrators, and the NCAA do not seem to be making any changes to stop the practice (Popper, 2014).

Statement of the Problem

There is an increasing trend of Division I volleyball prospective student-athletes committing early, before the official beginning of the recruiting process. Simultaneously, there is an increasing number of Division I volleyball student-athletes transferring. In 2010, there were 94 student-athletes who chose to transfer; in 2013, there were 266 student-athletes who changed institutions (Kern, 2014). There is limited information on the connection between these two trends in college volleyball, and whether early recruiting may be influencing the factors that cause a student-athlete to leave their institution.

Statement of Purpose

The purpose of this study is to examine the effect of an early recruiting commitment on NCAA Division I volleyball roster attrition.

Research Questions

1. Are NCAA Division I volleyball recruits who verbally commit to their institution more than 24 months before the first day of their freshman year in college significantly more likely to transfer or leave the team versus athletes who wait longer to make a commitment decision?
2. If they are significantly more likely, what are some factors that could explain this occurrence?

Definition of Terms

- *National Collegiate Athletic Association (NCAA)*: A voluntary, non-profit organization, consisting of approximately 1,200 members, through which colleges and universities in the United States govern their athletics programs. The NCAA is federated into three

divisions (I, II, and III) which each have their own distinct rules and regulations, as put forth in the annual NCAA Manuals.

- *NCAA Division I:* The highest level of intercollegiate athletics as categorized by the NCAA. In order to qualify for Division I classification, the athletic department must be in compliance with NCAA regulations and sponsor no less than 16 varsity sports. Membership requirements for Division I are outlined in article 3 of the NCAA Division I Manual.
- *Prospective Student-Athletes:* A prospective student-athlete is a student who has started classes for the ninth grade or a student who receives any financial assistance or other benefits from an institution that the institution does not provide to prospective students generally. Additional information about prospective student-athletes can be found in the Bylaw 13 of the *NCAA Division I 2015 Manual*
- *Recruiting:* Recruiting is any attempt to solicit or encourage a prospective student-athlete or their legal guardian by an institutional staff member with the purpose of attending their institution and participating in intercollegiate athletics.

Operational Definitions

- *Roster Attrition:* When a student-athlete departs a team, either by transfer, dropout or leaving the team, before their eligibility is completed.
- *Verbal Commitment:* A non-binding agreement to attend and compete in intercollegiate athletics from a student-athlete to an institution.
- *Dropoff:* When an athlete leaves their athletic team but stays enrolled at the school.

Assumptions

It was assumed that all data compiled on the website is accurate, including date of verbal

commitments. It was assumed that all student-athletes went through the recruiting process as regulated by the NCAA, and that all student-athletes had a choice of a number of schools. It was assumed that student-athletes had the final say during the decision-making process when choosing an institution.

Limitations

This study may not be reflective of all student-athletes. This study is intended to reflect the population of Division I women's volleyball athletes. This study may not be generalized to other populations in other NCAA divisions or sports.

Delimitations

This study was delimited to one sport and one division in the NCAA. Therefore, it may not be representative of all student-athletes. This study is also delimited to one time period, from 2005 to 2010, so it may not be representative of all student-athletes from other periods.

Significance of the Study

As early recruiting and transferring become more and more prominent features of Division I volleyball, it is important to examine if either are there is a negative relationship between the two in regards to the student athlete. An investigation of the relationship between recruiting and transfers could illuminate any changes that could be explored ensure focus during recruiting is on student athlete well-being.

CHAPTER 2

LITERATURE REVIEW

Before proceeding with a discussion of the methodology used in this study, there is necessary background information about recruiting from both a regulatory and practical standpoint that must be detailed. Further, there is a significant amount of research about college choice factors and the transfer and dropout decision process that informs this study. First, however, the theoretical framework for this study will come from the Expectancy theory, as outlined by Brian Redmond, and the theory of emerging adulthood, as outlined by Jeffrey J. Arnett.

Theoretical Framework

Expectancy theory is a process theory whereby individuals will chose one behavioral option over another because they believe it will lead to their desired outcome (Redmond, 2009). The practical application is as a motivation tool, because it can help create programs in the workplace to produce desired performances (Redmond, 2009). It is easy to see how expectancy theory applies to recruiting, as most actions taken by coaches or athletes are done because they desire an expected outcome. Athletes pour countless hours into training regimens because they believe this behavior will result in a scholarship. Coaches recruit early because of their desire to out-recruit other programs and attract athletes that will produce winning seasons.

Jeffrey J. Arnett posits the theory of emerging adulthood in his article published in 2000. Arnett discusses a view of development that segments the late teens and the early 20s to create a specific developmental period that is designed to attain an educational foundation (2000). Emerging adults act and think in a different way from younger adolescent teenagers and older, more established adults, using this time as a period of identity exploration (Arnett, 2000). This theory provides a developmental backdrop for the analysis of the difference in decision-making and development between recruited sophomores and younger (adolescents) and juniors and seniors in high school (emerging adults).

Recruiting Regulations

The recruiting process for NCAA Division I institutions is regulated by NCAA legislation, which is outlined in the annual *NCAA Division I Manual*. Bylaw 13 encompasses all aspects of recruiting, with the basic principle that a violation of NCAA regulations during the recruiting process can affect a student-athlete's eligibility for intercollegiate athletics competition (NCAA Division I Manual, 13.01.1, 2014). Therefore, the NCAA incentivizes institutions and coaches to actively monitor and participate in the recruiting process under strict regulations.

According to Bylaw 13, an evaluation of a prospective student-athlete is any "off-campus activity designed to assess the academic qualifications or athletics ability of a prospective student-athlete" (NCAA Division I Manual, 13.02.7, 2014). Evaluations can be made with any athlete, regardless of age or grade, as long as they occur without contact between the recruiting staff member and coach. When contact occurs, either by phone or in-person, there are additional restrictions on recruiting staff members.

Many of these restrictions are in place in order to concentrate recruiting upon the junior and senior year of a prospective student-athletes' high school career. Phone calls that are placed

by a prospective student-athlete and occur at a recruit's expense are allowed at any time, but all other forms of contact are limited by sport and the recruit's status in high school.

Another aspect of the recruiting process is prospective student-athletes visits to campus. During their senior year of high school, prospective student-athletes can take a formal, 48-hour visit to a campus that is paid for by the host institution (NCAA Division I Manual, 13.6, 2014). An athlete is limited to one official visit to any individual institution, and a total of five official visits overall (NCAA Division I Manual, 13.6.2, 2014). Only men's and women's basketball have rules that allow high school athletes to make official visits before their senior year.

While official visits are limited, prospective student-athletes may make an unofficial visit to a campus any number of times, and before their senior year of high school (NCAA Division I Manual, 13.7.1, 2014). Institutional personnel may not accompany the recruit off-campus and may not pay for any expenses, except for three complimentary admissions to a sporting event on-campus (NCAA Division I Manual, 13.7.2.1, 2014). An unofficial visit can include unlimited interaction with the coaching staff on-campus, provided it is not a dead period according to NCAA regulations (NCAA Division I Manual, 13.02.5.5, 2014).

Division I Volleyball Recruiting Practices

The recruiting path for volleyball recruits can differ on any number of factors, including skill, background and goals, much as it can differ for any athlete seeking to play college sports. This section explains NCAA contact rules for recruiting and also discusses Division I volleyball recruiting through the lens of trends, which are helpfully outlined in several published works. Reynaud and Sonnichsen are both former coaches who have published works outlining the recruiting and decision-making process for Division I volleyball athletes.

Sonnichsen (2011) provides the framework for recruiting and identifies many of the specifics to Division I and the changes over time. His book, *Inside College Volleyball*, lays out the typical process through four years of high school for a recruit. During a prospective student-athlete's freshman year, many colleges will send introductory letters in order to get information from the athlete to enter into a database. In return, high school freshmen can send any number of letters or emails and place phone calls in order to publicize themselves (Sonnichsen, 2011). A recruit can also visit institutions for unofficial visits to meet the coaching staff and see the campus, as long as the visit is outside of the dead period (Sonnichsen, 2011).

For high school freshmen and sophomores, there is a trend of athletes providing a verbal commitment to an institution before they are able to take an official visit during their senior year. Prospective student-athletes are able to learn more about the recruiting process through the Internet and contact coaches themselves through text, email and traditional mail (Sonnichsen 2011). High school athletes can then pay their way for an unofficial visit and make a verbal commitment to a coaching staff before their junior year starts (Sonnichsen, 2011).

NCAA regulations allow more channels of communication between coaching staffs and prospective student-athletes the closer the recruit gets toward high school graduation. Coaches can respond to emails or place phone calls to recruits starting in the beginning of his or her junior year (NCAA, 13.1.3, 2014). Official visits are possible for seniors, and prospective student-athletes are able to visit up to five campuses at no cost to themselves. Research into the recruitment process has indicated that Division I volleyball players value an early opportunity to see campus and interact with a coaching staff on unofficial visits (Reynaud, 1998). Concurrently, volleyball recruits also rank an official visit, especially being the last official visit they take, as an important indicator for committing to a school (Reynaud, 1998).

Division I volleyball rules specify several periods that affect a coaching staff's ability to recruit and contact athletes. From August 1 to December 7, Division I is in a contact period except for a three-day period in November that is a dead period. A contact period is the time when it is permissible for authorized recruiters to make in-person, off-campus recruiting contacts and evaluations with athletes (NCAA, 13.02.5.1, 2014). The dead period is when staff may not make on-campus or off-campus contact with prospective student-athletes, except by telephone or written contact (NCAA Division I Manual, 13.02.5.5, 2014). From December 8 to December 16, it is considered a quiet period during the NCAA Division I Tournament, whereby authorized staff may make on-campus contact with student-athletes (NCAA Division I Manual, 13.02.5.4, 2014).

After the championship ends but before the junior volleyball club season begins, there is another dead period. January 1 starts another extensive contact period during the junior club season that is marked by several days of either quiet or dead periods in January, April and May (NCAA Division I Women's Volleyball and Women's Sand Volleyball Recruiting Calendar, 2014). Quiet periods are opportunities for athletes to take unofficial visits to campuses and interact with coaching staffs, and similarly to prepare for the contact period when coaches will be evaluating them (Sonnichsen, 2011).

College Choice Factors for Prospective Students

There has been a significant amount of research into the factors that affect a student's choice of higher education, including the recruitment process for prospective student-athletes. Day (2011) examined recruiting from a consumer-oriented approach, where colleges and university athletic programs needed to understand recruits as potential customers. Day surveyed 63 student-athletes from three different universities in the Northwest to ascertain what their most

important decision factors were when choosing an institution to attend (2011). The study found that for the sample, the top factors were academic or geographic, such as the majors offered or distance from home (Day, 2011). Day's study is notable as it is one of the few studies whose sample identified non-athletic factors as the most important in the choice process (2011). The study included two Division I institutions and one Division III university, which may explain some of the difference from other studies focused on student-athletes in Division I only.

Another study, focusing on a cross-institutional sample of student-athletes, was performed by Doyle and Gaeth in 2013. The study sampled 605 student-athletes from all eight NCAA geographic regions and asked them to pick different choice profiles, mimicking the recruiting and decision process (Doyle & Gaeth, 2013). The study found that the amount of scholarship offered was significantly more important than other variables in the process (Doyle & Gaeth, 2013). Further, when the authors ran analysis of demographic data against choice profiles, the amount of financial need proved to be a significant indicator of the respondents that chose the institution based on scholarship offers (Doyle & Gaeth, 2013).

Many of these studies have attempted to segment the population examined in order to more precisely target factors that affect that group. For example, in 1980, Foreman published his study of male football and basketball athletes from Tennessee, Louisiana, Mississippi, Kentucky and Missouri (1980). Foreman received over 490 responses to his survey to identify common recruiting practices and which factors played an important role in the prospective student-athlete's decision (1980). The study, which used tabular frequencies and a chi-square analysis to analyze the survey results, revealed several conclusions. First, the majority of student-athletes received their initial recruiting contact from a coaching staff member in their last two years of high school (Foreman, 1980). Second, recruiting efforts were more successful when they

focused on the prestige of the school and had a scholarship offer included in the recruitment (Foreman, 1980).

A 2001 study targeted Division I football players to identify the attributes that differentiated the school the student-athlete chose to attend versus the schools they considered attending (Klenosky, Templin & Troutman, 2001). The authors used a means-end investigation with laddering interviews to sample 27 Division I football players (Klenosky, Templin & Troutman, 2001). The coach/coaching staff was a significant link in several ladders and was a significant variable for the student-athletes interviewed (Klenosky, Templin & Troutman, 2001). The coaching staff was important for student-athletes feeling comfortable, developing their skills, and because they determined playing time (Klenosky, Templin & Troutman, 2001).

Several studies have focused on recruiting to a single institution to help provide best practices or identify factors most closely related to recruiting success at one school. DeWaele focused on recruiting for the University of Nevada, Las Vegas (1996). She developed a survey instrument in conjunction with the athletic department at UNLV that measured the following six components: (a) relationship with coaching staff, (b) success of program, (c) personal achievement, (d) academics, (e) teammates, and (f) UNLV/Las Vegas (DeWaele, 1996). The 45-item instrument comprised of six components was developed and piloted with a field-test of 290 student-athletes at UNLV (DeWaele, 1996). Primarily, two components (relationship with Coach and family perceptions of UNLV/Las Vegas) comprising 15 variables explained 43.6% of the variance, based on two rounds of Principle Component Analysis (DeWaele, 1996). However, there were significant differences between sports, shown by an ANOVA analysis. Soccer student-athletes had a significantly lower mean-score for the relationship with coach component, while softball student-athletes had a higher mean-score compared to other sports in both

components (DeWaele, 1996).

Howatt focused on student-athletes attending East Tennessee State University and the factors that affected their choice to attend ETSU (1999). Howatt interviewed all 47 freshmen athletes from 12 different sports entering ETSU for the 1997-1998 academic year (1999). An inductive analysis of the qualitative interview data revealed that the coaching staff, facilities, and academics were the top factors for student-athletes choosing ETSU in the recruiting process (Howatt, 1999).

A 2002 study by Walker set out to identify factors that influence prospective student-athletes to attend a medium-sized Southeastern Conference school. Walker surveyed 49 student-athletes across 13 sports and, like Howatt, used inductive analysis on his collected data (2002). The questionnaire included three parts: a section on college choice factors; an open-ended section on the specifics of a respondent's recruitment process; and demographic data (Walker 2002). The study found that scholarships, academic programs, and the coaching staff were the most important factors to student-athletes (Walker, 2002).

Teeple's 2005 study sampled student-athletes at the University of Tennessee to ascertain the college choice criteria that most influenced their decision to attend Tennessee. Teeple's sampled 408 student-athletes across 16 sports during team meetings in the spring of 2004 (2005). The study concluded that many athletes chose UT because of the opportunity to win a championship during their time in school (Teeple's, 2005). However, the paper also concluded that there was a significant difference between the overall clustering of factors between male and female athletes (Teeple's, 2005). Female athletes tended to value athletic factors and their comfort with people involved in the program, such as coaches or other players. Male athletes focused on athletic factors, such as the conference, facility, and team reputation, and also valued

the school's athletic tradition (Teeples, 2005).

Huffman (2011) targeted Division I Football Bowl Subdivision football athletes from a southeastern university. Huffman used a modified version of the Student-Athlete College-Choice Profile to identify the fit between an athlete and an institution (2011). The study concluded that for the sample, athletically-related factors such as the opportunity to compete in a bowl game, win a championship, or appear in the top 25 were most important (Huffman, 2011). Huffman concluded that in his population, respondents were significantly more influenced by the opportunity to prepare for the professional football labor market than the broader labor market (Huffman, 2011).

Finally, former Florida State Head Coach Cecile Reynaud conducted a volleyball-specific study focusing in on the factors influencing a volleyball student-athletes choice of institution (1998). Reynaud captured a sample of 500 volleyball student-athletes from 64 universities based on stratified random sampling from the complete list of NCAA RPI (1998). The survey instrument was designed with 30 questions that included information on personal, athletic, and academic factors that were answered with Likert Scale questions (Reynaud, 1998). The study concluded that student-athletes were drawn to institutions in their home state and to coaching staffs that invited student-athletes to early campus visits, were honest during the recruiting process, and did not pressure the recruit during the process (Reynaud, 1998).

Decision-Making Process for Entering College

Similar to the research performed on college-choice factors for student-athletes and students overall, there has also been analysis of the decision-making process for important life decisions such as entering or exiting college. Often times, this research serves to integrate important choice factors with individual backgrounds and psychological or cognitive

development. Research often considers the college choice decision as the first important life decision or life-framing decision (Arnett, 2000; Galotti & Kozberg, 1994; Galotti & Mark, 1994).

Galotti and Mark's longitudinal study of high-school students making their secondary education decision served to analyze the process students use and the criteria they consider in their college-choice process (1994). The study sampled 322 high school students, 88 male and 234 female, from 19 high schools in Minnesota (Galotti & Mark, 1994). The students were recruited through homeroom and paid for each session they attended, with a total of three sessions spanning from April 1991 to April 1992. Galotti and Mark concluded that students considered roughly the same number and type of criteria throughout the year, but that the specific criteria changed during the one-year period (1994). Students often used parents, friends, and guidance counselors as sources of information; however, over time, only the parent's opinion stayed consistently influential as a factor in the final decision (Galotti & Mark, 1994).

Galotti updated her research with a 2007 article that compared the results of five studies of real-life decision-making. Two of the studies involved decisions about college: study No. 1, covered in Galotti and Mark, and study No. 2, involving college freshman deciding on a major (Galotti, 2007). Galotti's studies focus on the decision-structuring phase of the process in each case, the phase in which the individual considers options and decides the criteria upon which a decision will be judged (Galotti, 2007). In analyzing and comparing the five studies, Galotti concluded that people typically constrain the number of criteria to a manageable number (often from 3 to 9 criteria) but weigh multiple options at the same time (Galotti, 2007).

Decision-Making Process for Transfers or Dropouts

Before analyzing research into the transfer or dropout decision-making process, it is

important to discuss the NCAA regulations surrounding transfers. The NCAA restricts student-athletes' ability to transfer freely based on several fundamental principles, mainly under the principle of Student-Athlete Well-Being (NCAA Division I Manual, 2.2, 2014). In the event that a student-athlete chooses to leave a university, that student-athlete must wait one year before participating in athletics at the new institution (NCAA Division I Manual, 15.5.1, 2014). However, the student-athlete may receive a waiver from their previous school in order to participate at their new school without penalty (NCAA Division I Manual, 14.5 2013). If a school provides a release, this allows an exception to the one-year in residence requirement for the student-athlete (NCAA Division I Manual, 14.5, 2014). This exception requires the student-athlete to have met NCAA requirements for transfer, such as being in good standing, and for the student-athlete to be participating in a sport other than baseball, basketball, bowl-subdivision football, and men's ice hockey (NCAA Division I Manual, 14.5, 2014). This requirement is in place regardless of whether or not the student-athlete had their scholarship terminated or reduced by their prior school. Therefore, NCAA regulations may be an additional deterrent for student-athletes who want to transfer and continue their athletic career at another institution.

Much as there has been research into the decision to enter a college, similar research has occurred on the decision to depart higher education before degree completion. One of the earliest reviews of institutional dropout was conducted by Spady in 1971. Spady examined dropouts from the perspective of Durkheim's Theory of Suicide, in which suicide is more likely with a lack of integration into the life of society (1971). Spady applies Durkheim's theory via a lack of integration into the culture and society of the institution, where students are unable to accept themselves into school (Spady, 1971). This lack of integration can come from various background factors, including the student's family, socioeconomic status, gender or ethnicity

(Spady, 1971). Institutional policies can also affect the lack of integration, such as grading policies that affect a student's GPA (Spady, 1971).

Bean published a 1980 article on the determinants of student attrition in higher education. Bean distributed questionnaires to 1,171 university freshmen and then the data was analyzed using multiple regression and path analysis (Bean, 1980). Bean found that there were different determinants that were statistically significant for men and women (Bean, 1980). Determinants for females tended to be focused around educational quality, developing a routine, and their own commitment to an institution (Bean, 1980). Meanwhile, men tended to value communication and their own satisfaction with the university and education than women (Bean, 1980). Overall, the researcher found that the decision to leave for women was often more complicated and was more significantly related than their male counterparts, including academic success, development, and housing (Bean, 1980).

DesJardins, Ahlburg and McCall published a 1998 study that analyzed student departure using event-history modeling. This form of modeling allowed the researchers to pinpoint exact times at which students are most at risk of a stopout, the study's term for pausing or leaving college (DesJardins, Ahlburg & McCall, 1998). The model had time-varying regressors such as GPA, student-athlete, loans, on-campus, and earnings (DesJardins, Ahlburg & McCall, 1998). Students with higher GPAs are less likely to stopout during the observation period; athletes tend have significantly lower probability of a stopout during their first two years (DesJardins, Ahlburg & McCall, 1998). Further, students who earn money on campus are less likely to stopout over their time in college (DesJardins, Ahlburg & McCall, 1998).

The academic fit of student-athletes and the ability to retain athletes has been researched in several studies. Rishe sampled the graduation rate of 308 Division I schools and used paired t-

tests to examine the relationship between graduation rates and athletic success (2003). Rishe found that the overall undergraduate population was not harmed, in regards to graduation rates, with athletic success at their institution (Rishe, 2003). Further, the graduation rates for student-athletes are not harmed by higher levels of athletic success and exposure (Rishe, 2003). However, the analysis does discover a graduation gap between student-athletes and non-athletes that is sensitive to athletic success, a trend found in all sports except men's basketball (Rishe, 2003). Furthermore, there is disparity between genders that increases as athletic success increases, in that women have higher graduation rates and increase their advantage as athletic success goes up (Rishe, 2003).

Ferris, Finster and McDonald analyzed graduation rates and found several problems with the comparison of graduation rates alone (2004). The authors note that there is a distinct diversity among institutions and their missions, student bodies, and other factors that can affect a graduation rate (Ferris, Finster & McDonald, 2004). Ultimately, the authors found that overall, student-athletes are graduating at a similar rate to non-athletes in Division I (Ferris, Finster & McDonald, 2004). Even more impactful, they find that student-athletes who may be a poorer academic fit for highly selective institutions gain a graduation bump because those institutions tend to post the highest graduation rate among student-athletes (Ferris, Finster & McDonald, 2004). Therefore, one conclusion is that athletes tend to transfer out of "brand name" or selective universities less than other schools (Ferris, Finster & McDonald, 2004).

Rivera's 2004 study of 330 Division I student-athletes intended to identify the key factors for those student-athletes in their decision-making process to stay in school. The sample encompassed athletes from 16 different sports and from one large west coast university who took the "Understanding College Student-Athlete Retention" questionnaire developed for this study

(Rivera, 2004). Student-athletes identified the quality of their academic and athletic experience and support networks as the self-perceived most important factors for student-athletes (Rivera, 2004).

Crom, Warren, Clark, Marolla and Gerber published a 2009 study analyzing the effect of scholarship support, gender, and sport-type on student-athlete retention at a single Division I conference. The mid-major conference provided data on all student-athletes participating from 2001-2005, resulting in 12, 980 total observations that were analyzed using ANOVA and regression (Crom et. al., 2009). The analysis concluded that scholarship support alone was not significantly related to retention of student-athletes (Crom et. al., 2009). However, female athletes and individual-sport participants were retained at a significantly higher rate than male athletes and team-sport participants (Crom et. al., 2009). The researchers concluded that the increased professional opportunity for male athletes over female athletes was one reason that females were more likely to stay in school (Crom et. al., 2009).

Although not a study analyzing the decision to dropout or transfer, Pascarella, Maury, Bohr and Terenzini analyzed cognitive outcomes and educational attainment of student-athletes (1995). The study looked at freshmen from 23 institutions, 18 four-year and five two-year, based on a selection from a database to represent a wide swath of secondary situations (Pascarella et. al., 1995). In total, there were 2,416 freshmen respondents to the longitudinal survey (Pascarella et. al., 1995). The researchers found that, although nonrevenue male athletes and male non-athletes mirrored each other, men's basketball and football athletes were severely cognitively disadvantaged in reading comprehension and mathematics (Pascarella et. al., 1995). The same was true for reading comprehension between all female athletes and female non-athletes (Pascarella et. al., 1995). The researchers conclude there is a need to pay extra attention to

developing a culture surrounding athletics that values gains in these skills (Pascarella et. al., 1995). As seen in previous research about the decision to leave institutions, the success in academics can play an important role in students deciding to leave (Spady, 1971; Bean, 1980).

Negatives of Early Recruiting

Many opponents of early recruiting decry the practice based on personal experience with recruited athletes. There are well-publicized situations where athletes committed before their junior year and have had successful athletic and academic careers by many standards; at the same time, the opposite is true. In Division I volleyball, the most obvious negative based on NCAA regulations is the lack of an official visit, which levels the playing field for recruits who may be economically disadvantaged and therefore cannot afford traveling on their own to multiple schools (Kern, 2005).

There is also a belief that the decision-making abilities of a fourteen or fifteen year old will be drastically different than a seventeen or eighteen year old. A published study by the ACT organization analyzed the factors that impact career and educational success (2007). The study notes that people take a linear path towards cognitive development and readiness, meaning that in regards to many qualities (such as motivation, self-regulation and exploration), humans are progressing steadily towards benchmarks in those qualities based on time, development and experience (ACT, 2007). Those factors, such as motivation, also prove to be the greatest indicators of success in education and the workplace (ACT, 2007).

Abbott and Collins published an article describing best practices for the identification and development of talent (2004). The authors recommend a sampling stage for young athletes before engaging in a specialization stage in order to maximize the opportunities for talent identification and development (Abbott & Collins, 2004). This importance is linked to another

criticism of early recruiting: it also forces early specialization.

Early specialization has recognized benefits and consequences. Wiersma outlines many of the negative consequences of early specialization in his article published in 2002. Early specialization in sport can lead to stunted motor skills due to a lack of diversification in activities (Wiersma, 2000). Further, a single sport can inhibit social and cognitive development because many parents and athletes use youth sports as an avenue for development (Wiersma, 2000). Finally, early specialization can cause burnout in athletes, due to repetition from an early age that may result in injury or overuse (Wiersma, 2000). Although early specialization may help young athletes eventually reach a higher level of skill, early recruiting prioritizes those athletes that specialize early at the risk of some of the negative consequences.

Yen recognizes this conundrum and juxtaposes it with the NCAA mission for student-athlete well-being and education prioritized over athletics (2011). His article outlines the several arguments against early recruiting, the first being that athletes that are sophomores and younger will change mentally and physically (Yen, 2011). He also describes the practice of time-bound scholarship offers, where an athlete feels they cannot take their time to make a decision because an offer is only on the table for a certain amount of time (Yen, 2011). Ultimately, Yen concludes that the best option is for the NCAA to permit and regulate many of the current practices.

Research Between Early Recruiting and Transfers

Rich Kern, the proprietor of RichKern.com, where the data set for this study is obtained, published an original study looking at the relationship between transfers and early commitments (2007). Kern used a regression analysis to analyze recruits for 2004 and 2005, which amounted to 2,410 total student-athletes. Kern found that, although some later months showed higher rates of transfers, the overall trend was not that early commitments are transferring more than the

student-athletes that wait (Kern, 2007).

Kern then updated his study in 2011, using information on athletes from 2004-2009 for a total of 7,106. He concluded that, yet again, the supposed link between early recruiting and transfers was unsubstantiated at only 8.8% of athletes who committed between 29-48 months before their enrollment date and then transferred, which is half of that of regular students who enroll at a four-year institution (Kern, 2011).

Conclusion

The foundational background of this study is rooted in an exploration of the decision-making process and adolescent development. Researchers have approached the college decision from multiple angles, analyzing the decision-making process and investigating the important criteria used in selecting institutions. A similar approach has been used for college students that chose to transfer or dropout, as studies have attempted to answer both how and why students make these decisions. Moving forward, this study targets Division I volleyball student-athletes and attempts to investigate one more factor that could potentially affect student-athlete transfers.

CHAPTER 3 METHODOLOGY

Coaches, athletes and support networks have decried the recent trends of early recruiting but have been unable to prove any linkage between early recruiting and negative effects on student-athletes upon enrollment. This study seeks to test whether early recruiting affects roster attrition in Division I college volleyball by increasing the likelihood of transfers or dropouts.

Purpose

The purpose of this study is to examine the effect of early recruiting and commitments on NCAA Division I volleyball roster attrition. This study will analyze the relationship between the date of a recruit's verbal commitment and whether or not that athlete remained at their original school for the complete duration of their college eligibility.

Instrumentation

The data from this study was retrieved from an online database and recruiting registry maintained at RichKern.com. RickKern.com is a nationally recognized voice in the volleyball community, providing for a paid subscription access website that catalogs yearly rosters, recruiting information, game scores and coaching information for all levels of college volleyball. The website utilizes information submitted by university and athletic sports information personnel and junior club directors. RichKern.com houses the Rick Kern Point Index (RKPI) and Pablo Index, which are nationally recognized ranking indexes for NCAA volleyball.

Credibility, validity, and reliability. The data is considered credible, valid and reliable based on national prominence and use by all levels of college volleyball and its collection method (user submission). The data was not modified or changed in any way in order to complete this study.

Sample

The population for this study was all NCAA Division I volleyball recruits who provided a verbal commitment to an institution from 2005 to 2010 ($N= 6,404$). Based on the availability of all recruiting information for this time period, it is assumed that the sample is representative of all Division I volleyball players from 2005-2010.

Procedures & Data Collection

The data will be retrieved from RichKern.com and sorted into an Excel document based on the following headers: Player Name, School, Recruiting Class, Months Committed Prior to Enrollment, Transfer (Y/N), Leave Team (Y/N).

Statistical Analytical Methodology

Once all of the data was collected into an Excel document, the data is transferred into Statistical Package for Social Sciences (SPSS v.21) and two different statistical procedures will be conducted. First, a basic regression analysis will be run using Months Committed Prior to Enrollment as the independent variable, and Transfer or Leave Team (Y/N) as the dependent variable. A regression analysis will test the relationship between the two variables and explore the relationship. A regression test will test the statistical significance of changes in the dependent variable based on changes in the independent variable.

A Chi-Square Test of Independence will also be run against the data to discover if the ratios are occurring simply by coincidence or chance. The two categories will be: Transfer or

Leave Team (Y/N) and Months Committed Prior to Enrollment (Less than 24, 24 or Greater).

The demarcation line of 24 months is chosen because 24 months prior to a student-athlete's enrollment would place the commitment before the NCAA regulated traditional recruitment period. The Chi-Square test will assess whether frequencies observed are statistically significant or happen by chance in regards to the relationship between the two variables.

CHAPTER 4

RESULTS

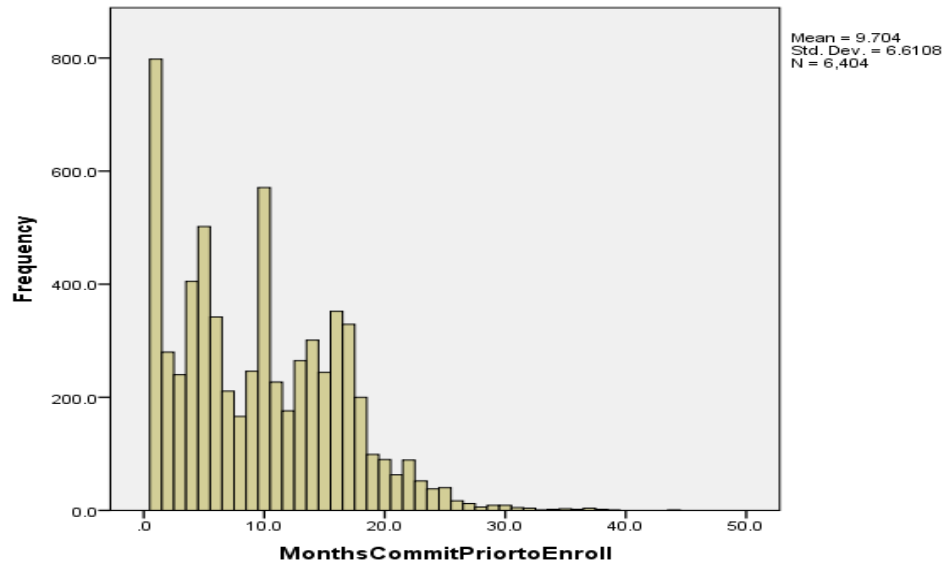
This study was designed to test the popular narrative among coaches that early recruiting is disrupting the retention of student-athletes at the university level. Coaches believe there is a link between early commitments to an institution and the increasing rate of student-athlete transfers. The objective of this study is to analyze the relationship between early commitments and student-athletes that choose to transfer or leave the team before their eligibility has been completed in Division I volleyball.

Description of Population

The population was drawn from the online recruiting and score website RichKern.com, with information verified from school media guides. RichKern.com compiles roster, recruiting and score information for college volleyball in the United States, through a mixture of user submission and proprietor labor.

The selected population was all Division I volleyball recruits between 2005 and 2010 that RichKern.com provided a commitment date. The final population number was 6,404 student-athletes who spanned across 327 different institutions. The minimum number of months a student-athlete in the population committed to an institution was one, while the maximum number was 44 months. The mean number of months a student-athlete committed before enrollment was 9.704, with the most frequent number of months being one.

Graph 4.1: Count of Number of Months Committed Prior to Enrollment



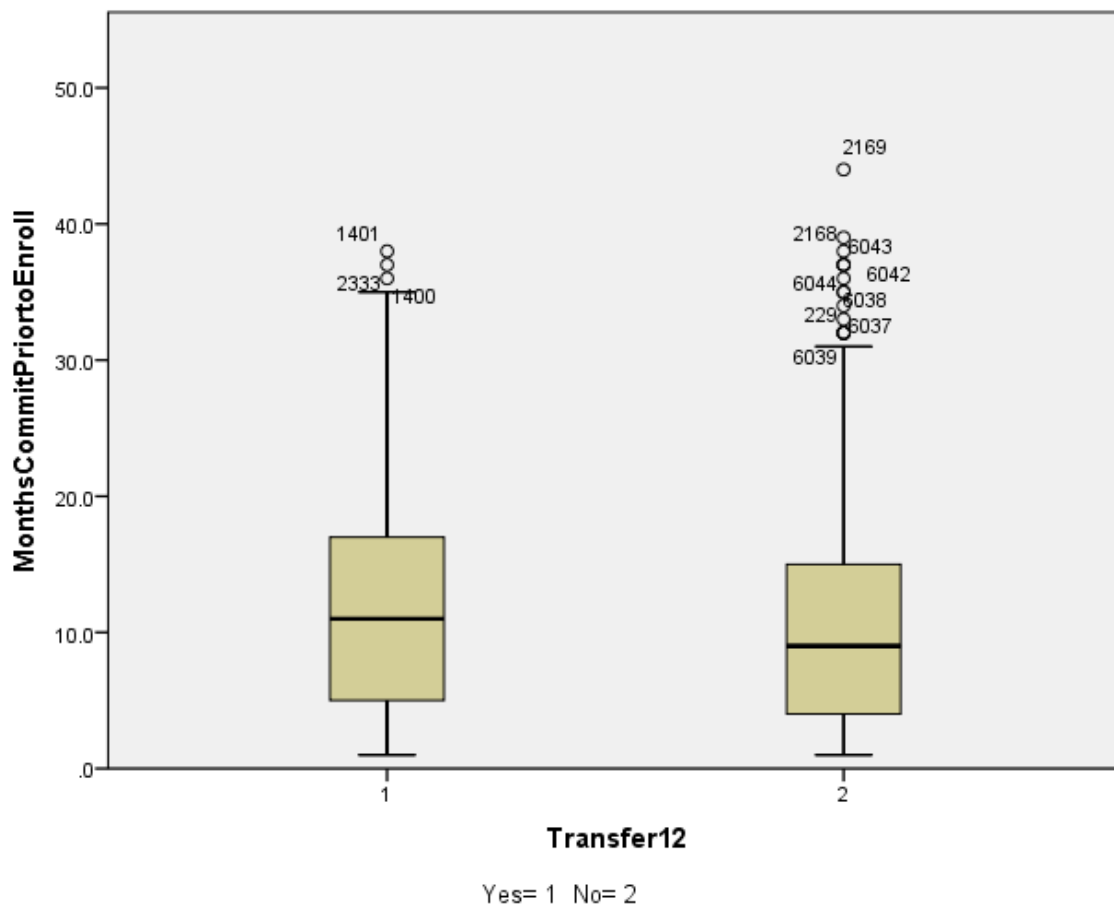
The student-athletes competed between zero and six years at their original institution, and the mean number of years competed at their original institution was 2.99 years.

Table 4.1: Years Competed at Original School

	Frequency	Percent	Valid Percent	Cumulative %
0	244	3.8	3.8	3.8
1	1174	18.3	18.3	22.1
2	924	14.4	14.4	36.6
Valid 3	486	7.6	7.6	44.2
4	3221	50.3	50.3	94.5
5	352	5.5	5.5	100.0
6	3	.0	.0	100.0
Total	6404	100.0	100.0	

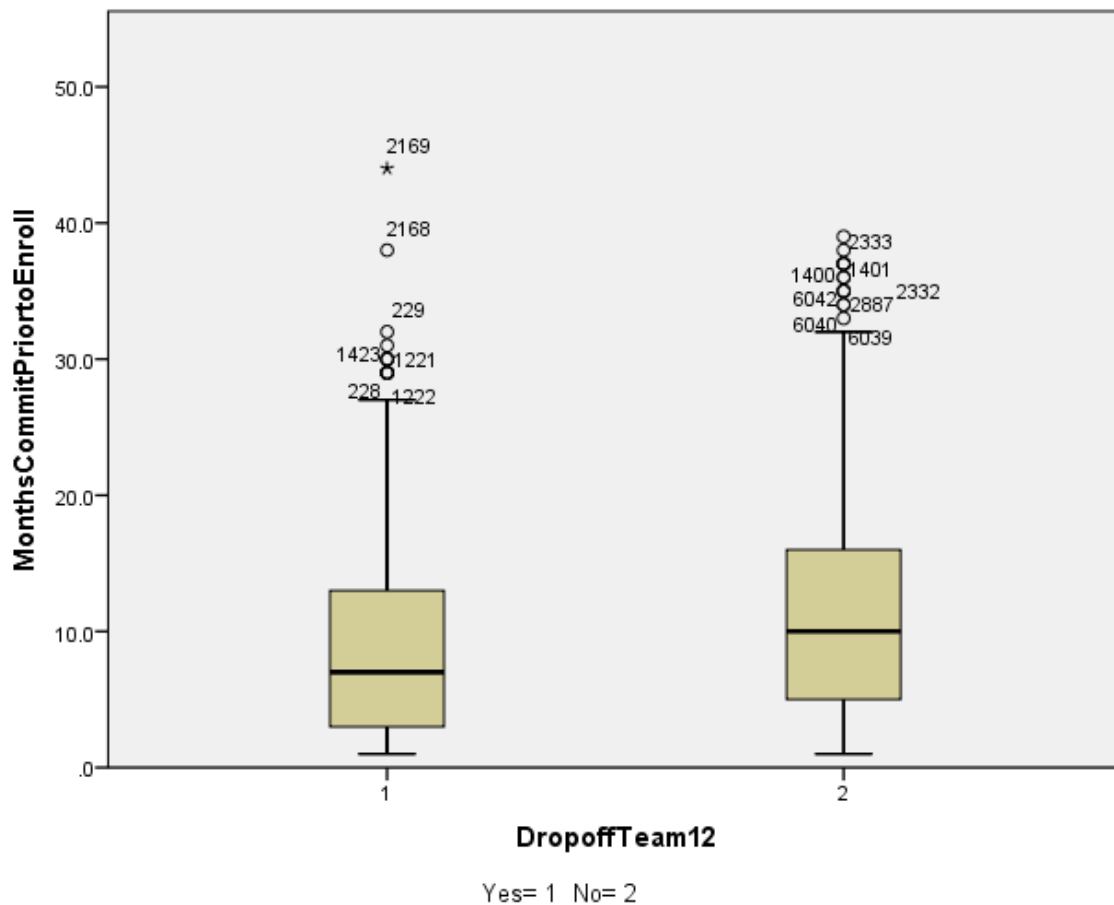
Overall, 2,404 student-athletes left the team before completing their eligibility at their original institution, while 489 student-athletes transferred from their original institution. Therefore, 45% of student-athletes in the population did not exhaust their eligibility at their original institution. Graph 4.2 and 4.3 visually represented the distribution of Transfers and Dropoffs via box plots.

Graph 4.2: Transfer Status Boxplot



In Graph 4.2, the box plot shows the difference between the student-athletes that transferred and the student-athletes that did not. The mean (black line in the center of the box) is slightly higher in the group that transferred than those that did not; the maximum and upper quartile are also higher for the group that transferred versus the group that did not.

Graph 4.3: Dropoff Status Boxplot



Conversely, Graph 4.3 portrays the student-athletes that left the team before exhausting their eligibility (as designated by 1). The mean, maximum and upper quartile for student-athletes that left the team are all lower than those same descriptive statistics for the group that did not leave the team. However, that category includes student-athletes that transferred and did not leave the team, so that may influence the rise in those statistics.

Research Question #1

Are NCAA Division I volleyball recruits who verbally commit to their institution more than 24 months before the first day of their freshman year in college significantly more likely to

transfer or leave the team versus athletes who wait longer to make a commitment decision?

The study is designed to use two statistical methods to analyze research question #1; one, a regression analysis, and the second, a Chi-Square test of independence. The regression analysis will test whether a model where the number of months a student-athlete committed prior to their enrollment can accurately predict whether or not a student-athlete will transfer or leave the team (dropoff). The Chi-Square test will analyze a model where the null hypothesis is that the two variables (months committed and transfer/dropoff) are independent of each other.

Logistic Regression

Since the Transfer and Dropoff variables are dichotomous categorical variables, a binary logistic regression was the statistical method chosen to analyze the data. In the original data set, the variables Transfer and Dropoff were coded Yes=0 and No=1. The logistic regression recoded the values for an internal dichotomy of Yes=0 and No=1. Table 4.2 shows several of the pertinent results of the regression analysis.

Table 4.2: Omnibus Tests of Model Coefficients: Months Committed x Transfers

		Chi-square	df	Sig.
Step 1	Step	46.632	1	.000
	Block	46.632	1	.000
	Model	46.632	1	.000

Table 4.2 shows one set of output from the regression model with the months committed as the independent variable, and Transfers as the dependent variable. The null hypothesis for this

output is that the variables of Months Committed and Transfers are independent, or that there is no effect on the number of transfers by the number of months committed before enrollment.

Meanwhile, the Sig. column value is the probability of obtaining the previous chi-square statistic if the null hypothesis, that there is no relationship, is true. In other words, this is the probability of obtaining this chi-square statistic if there is in fact no effect of the independent variables, taken together, on the dependent variable. In this case, the model is statistically significant because the p-value .000, less than the alpha level, and thus the null hypothesis can be rejected.

Table 4.3: Variables in the Equation: Months Committed x Transfers

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a						
MonthsCommitPriortoEnroll	-.048	.007	48.041	1	.000	.953
Constant	3.057	.093	1075.178	1	.000	21.263

In table 4.3, the Wald value is used to test the null hypothesis that the coefficient is 0.

Again, using an alpha level of $\alpha = .05$, the Wald value is statistically significant and the null hypothesis can be rejected. Tables 4.4 and 4.5 illustrate the same tests of the model using logistic regression for months committed prior to enrollment and student-athletes that leave the team.

Table 4.4: Omnibus Tests of Model Coefficients: Months Committed x Dropoffs

		Chi-square	df	Sig.
	Step	183.925	1	.000
Step 1	Block	183.925	1	.000
	Model	183.925	1	.000

Table 4.4 now shows one set of output from the regression model with the months committed as the independent variable, and Dropoffs as the dependent variable. The null hypothesis for this output is that Months Committed and Dropoffs are independent, or that there is no effect on dropoffs by the number of months committed before enrollment. The Sig. column value is .000, which when compared to an alpha level of $\alpha = .05$ shows the model is statistically significant because the p-value less than the alpha level, and thus the null hypothesis can be rejected.

Table 4.5: Variables in the Equation Dropoff*MonthsCommitted

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	MonthsCommitPriortoEnroll	.055	.004	174.169	1	.000	1.056
	Constant	-.004	.046	.009	1	.924	.996

In table 4.5, the Wald value is 174.169 with a Sig. value of .000. The B value of .055 indicates that 5.5% of the variance between whether students dropoff or not is based on the number of months a student-athlete commits prior to enrollment, which is while significant is still a small number for an effective predictive model. Again, using an alpha level of $\alpha = .05$, the Wald value is statistically significant and the null hypothesis can be rejected.

In the logistical regression analysis for the Months Committed variable and both Transfer and Dropoff variables the Omnibus Tests of Model Coefficients provided a chi-square statistic that verified the model improved its prediction capabilities with the inclusion of Months

Committed as an independent predictor variable. However, for both the Transfer and Dropoff variables, the logistic regression model was a poor fit based on variability and prediction capabilities. The models covered only 5.5% of the variance, at best, which means that the number of months a student-athlete is committed prior to enrollment only predicts a small number of athletes that chose to transfer or dropoff of their initial team.

Chi-Square Test of Independence

The second statistical method used to analyze the data is a Chi-Square Test of Independence. Much like the Chi-Square statistic inside the logistic regression, this method is used to test the relationship between two categorical variables. Therefore, instead of using the variable Months Committed Prior to Enrollment, it was transformed into a categorical variable titled Greater24 that had two levels. If a recruit committed less than 24 months before she enrolled at her institution, the case was a 0; if it was more than 24 months, it was labeled a 1. This allowed for two categorical variables, each with two levels, to be tested using the selected method.

Table 4.7 shows the Chi-Square Test for the same two variables, while table 4.6 shows the Crosstabulation table for Transfer*Greater24.

4.6: Chi-Square Tests for Transfer * Greater24

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	23.719 ^a	1	.000	.000	.000
Continuity Correction ^b	22.225	1	.000		
Likelihood Ratio	17.755	1	.000		
Fisher's Exact Test					
Linear-by-Linear Association	23.715	1	.000		
N of Valid Cases	6404				

4.7: Transfer * Greater24 Crosstabulation

		Greater24		Total
		0	1	
Transfer12	Count	5810	130	5940
	% within Transfer12	97.8%	2.2%	100.0%
	0 % within Greater24	93.0%	82.8%	92.8%
	% of Total	90.7%	2.0%	92.8%
	Adjusted Residual	4.9	-4.9	
	Count	437	27	464
	% within Transfer12	94.2%	5.8%	100.0%
	1 % within Greater24	7.0%	17.2%	7.2%
	% of Total	6.8%	0.4%	7.2%
	Adjusted Residual	-4.9	4.9	
Total	Count	6247	157	6404
	% within Transfer12	97.5%	2.5%	100.0%
	% within Greater24	100.0%	100.0%	100.0%
	% of Total	97.5%	2.5%	100.0%

In Table 4.7, it is noticeable that 5.8% of student-athletes transferred who committed more than 24 months before enrollment, as compared to the 2.2% who committed more than 24 months and did not transfer. Then, analyzing the Chi-Square Test, the Pearson Chi-Square value is 23.72. The p-value is .000 for the given statistic, meaning that for an alpha level of $\alpha = .05$, the test rejects the null hypothesis that the two variables are independent.

The same procedure is then applied to Dropoff * Greater24, with results in tables 4.8 and 4.9.

Table 4.8: Dropoff * Greater24 Crosstabulation

		Greater24		Total
		0	1	
DropoffTeam12	0			
	Count	3885	118	4003
	% within DropoffTeam12	97.1%	2.9%	100.0%
	% within Greater24	62.2%	75.2%	62.5%
	% of Total	60.7%	1.8%	62.5%
	Adjusted Residual	-3.3	3.3	
	1			
	Count	2362	39	2401
	% within DropoffTeam12	98.4%	1.6%	100.0%
	% within Greater24	37.8%	24.8%	37.5%
Total	% of Total	36.9%	0.6%	37.5%
	Adjusted Residual	3.3	-3.3	
	Count	6247	157	6404
	% within DropoffTeam12	97.5%	2.5%	100.0%
	% within Greater24	100.0%	100.0%	100.0%
	% of Total	97.5%	2.5%	100.0%

4.9: Chi-Square Tests for Dropoff * Greater24

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.992 ^a	1	.001	.001	.000
Continuity Correction ^b	10.446	1	.001		
Likelihood Ratio	11.660	1	.001		
Fisher's Exact Test					
Linear-by-Linear Association	10.990	1	.001		
N of Valid Cases	6404				

Analyzing the Chi-Square Test, the Pearson Chi-Square value is 10.992. The p-value is .001 for the given statistic, meaning that for an alpha level of $\alpha = .05$, the test rejects the null hypothesis that the two variables are independent.

Finally, tables 4.10 and 4.11 give the same statistics for the variable Exhaust * Greater24.

The Exhaust variable is a compilation of student-athletes who transferred and student-athletes who left their team before exhausting their eligibility, where if a student-athlete transferred or left the team they are assigned a 0, and if they exhausted their eligibility they received a 1.

Table 4.10: Exhaust * Greater24 Crosstabulation

			Greater24		Total
			0	1	
Exhaust	0	Count	2822	65	2887
		% within Exhaust	97.7%	2.3%	100.0%
		% within Greater24	45.2%	41.4%	45.1%
		% of Total	44.1%	1.0%	45.1%
		Adjusted Residual	.9	-.9	
	1	Count	3425	92	3517
		% within Exhaust	97.4%	2.6%	100.0%
		% within Greater24	54.8%	58.6%	54.9%
		% of Total	53.5%	1.4%	54.9%
		Adjusted Residual	-.9	.9	
Total	Count		6247	157	6404
	% within Exhaust		97.5%	2.5%	100.0%
	% within Greater24		100.0%	100.0%	100.0%
	% of Total		97.5%	2.5%	100.0%

Table 4.11: Chi-Square Tests for Exhaust * Greater24

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.880 ^a	1	.348	.372	.196
Continuity Correction ^b	.735	1	.391		
Likelihood Ratio	.885	1	.347		
Fisher's Exact Test					
Linear-by-Linear Association	.880	1	.348		
N of Valid Cases	6404				

In the data in table 4.10, 97.7% of cases of student-athletes that either transferred or left the team also had committed to their institution less than 24 months before enrollment, which is similar to the 97.4% who did not transfer or leave the team but did commit to their institution less than 24 months before. The number for those that committed more than 24 months is also extremely close: 2.3% to 2.6%.

As indicated by the close numbers in table 4.10, table 4.11 shows the Pearson Chi-Square value of .880. The p-value is .348, so with an alpha level of $\alpha = .05$, we cannot reject the null hypothesis.

The Chi-square Test of Independence, overall, provided similar conundrums to the logistic regression analysis. Individually, the test for Transfers * Greater24 (table 4.6) and Dropoffs * Greater24 (table 4.9) both produce a Pearson Chi-square statistic that is significant and allows us to reject the null hypothesis: that the two tested variables are independent of each other. However, a third test Exhaust * Greater24 provided a Pearson Chi-square statistic that was not significant and did not allow us to reject the null hypothesis (table 4.11). Much like the previous method, the final determination must be that the number of months a student-athlete commits prior to enrollment has a weak effect on Transfers, Dropoffs and the combined group despite the presence of a relationship.

CHAPTER 5

DISCUSSION

The NCAA is currently in a period where discussions of student-athlete welfare are at an all-time high. Similarly, the demands on a coaching staff to lockdown blue-chip recruits in order to achieve and sustain long-term success are continually rising. One method coaches have turned to, with controversial results, is recruiting prospective student-athletes younger and younger. Coaches have spoken out against this practice and linked the rising number of transfers and dropoffs from their teams as evidence against early recruiting, but little tangible evidence exists to validate that link. This study provides the first compilation of statistical evidence to help begin to understand the relationship between early recruiting, transfers and dropoffs and how early recruiting is impacting student-athletes during an important phase in their lives when they are selecting and attending an institution.

Implication of Early Recruiting and Student-Athlete Retention

Coaches have pinpointed the practice of early recruiting as detrimental to a student-athlete's ability to select the right fit for their college athletics career (Popper, 2014; Richey, 2014)). This should, in theory, bear out as a significant statistical relationship between the number of months a student-athlete commits prior to their enrollment with an institution, and whether or not that student-athlete transfers or leaves the team before exhausting their eligibility. However, not all of the data verifies that perspective.

Predicting Attrition Based on Early Commitments

The two statistical procedures provided interesting information to unpack in regards to the predictive capabilities of analyzing early commitments. As a variable, the number of months a student-athlete committed prior to enrollment has a significant relationship according to our test procedures. However, the significance seems to be, especially in regards to early commitments ability to round out an effective model that predicts whether or not a student-athlete will dropoff or leave the team.

In the logistic regression analysis, the model using MonthsCommitted covers only 5.5% of the variance, at best. The Chi-Square test shows that there is a relationship between the Transfer and Dropoff variables and Greater24 individually, but that together the affect weakens. This is further bolstered by the weak predictive element present from the regression analysis. Therefore, the number of months a student-athlete commits prior to enrollment is a significant variable, but has a weak impact and needs more factors in a better model.

This make sense given the number of influences students and student-athletes cited in studies related to college choice decisions and dropout decisions. Day found that student-athletes chose their institution based on academics and geography; Klenosky, Templin and Troutman found that the coach and coaching staff were significant factors in a recruits decision (2011; 2001). In a volleyball specific study, Reynaud found that student-athletes were drawn to schools in their home state and to coaches that acted a certain way in the recruiting process (1998). With so many verified influential factors, it makes sense that each of these reasons could be an influential variable.

Similarly, the decision to transfer or dropout has its own set of factors, such as commitment levels, lack of integration and educational quality (Bean, 1980; Spady, 1971).

Therefore, when a variable like the number of months committed prior to enrollment explains 5.5% of the variance in a model, it both makes sense that the number is very small and serves as a jumping off point. There are many different influential factors at play in the decision to enter school and to leave it, especially for student-athletes. Further models can integrate more variables and quite possibly, early commitments could be one of the most explanatory with further research, despite the small number.

Further, this data set lends itself has many significant characteristics that help explain this relationship between early commitments and transfers or dropoffs. First, the most frequent number of months a student-athlete is committed to an institution before enrollment is overwhelmingly one. There were 798 student-athletes that committed one month before enrollment, over four times the number of student-athletes that committed between the 24-44 months before enrollment (156 student-athletes). Of those 798 student-athletes, 386 (48.3%) transferred or left the team before exhausting their eligibility. One indicating factor for this group can be the scholarship status and playing time of these late game commitments, two confounding variables that is not tested in this study. Many walk-ons or players that do not receive a scholarship announce their commitment to an institution late in the recruiting process, contingent upon their admission and acceptance or waiting for the best roster position. That player may then leave because the commitment is too much without the incentive of playing time or a scholarship to help them.

Creating a Better Model Using Decision Factors

The second research question is if student-athletes that commit more than 24 months before enrollment are significantly more likely to transfer or leave the team, what are some factors that could explain this occurrence? Accordingly, the results of the statistical procedures

did not verify that student-athletes from our data set were significantly more likely to transfer or leave the team. Therefore, it is worth discussing these factors not in terms how they would have explained such an occurrence, but as variables that could potentially fill out a better predictive model for our data set.

The first two to discuss have already been mentioned: scholarship status and playing time. For the first, the incentive of a scholarship is a powerful motivator for student-athletes to remain on an intercollegiate athletics team. Secondly, the treatment, playing time and resources for walk-ons can differ greatly from scholarship student-athletes, even recruited walk-ons, which are essential for most Division I, volleyball teams. Accordingly, David Frank from recruiting information service AthleticScholarships.net notes that “Most walk-ons will quit [...] most walk-ons will not finish their four years of eligibility at the same school” (2013).

Playing time is also an important factor for student-athletes when selecting an institution. Much how coaches feared student-athletes who committed early and then arrived and were unable to contribute, the reverse is true of student-athletes who wait and then find themselves ending up at a school where playing time is few and far between. These student-athletes will then transfer, in order to find better opportunities, or leave the team because the grind or the fit is too poor.

Additionally, many of the college choice factors outlined in Chapter 2 of this study could be variables in an effective model. It is not uncommon to see student-athletes transferring and citing academic reasons, such as a major or program offered at a school. This falls in line with Day’s study from 2011 that cited academics as one of the major factors. One of the highest-profile transfers of the last few years was Lauren Cook, the National Freshman of the Year who left after her first season at UCLA to join her father at Nebraska. Her reason for transferring was

that her major, event management, was not offered at UCLA (Burger 2011).

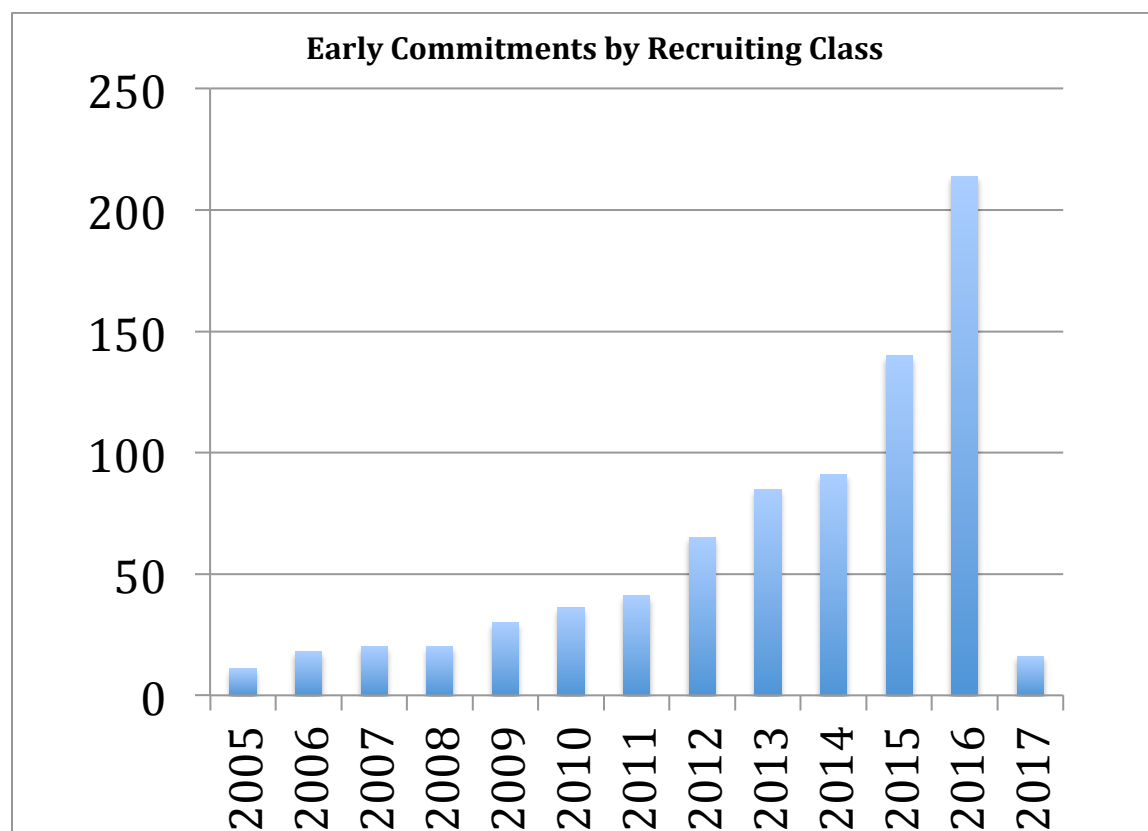
The level of play is also an important factor in the recruiting process, and can affect a student-athlete's decision to transfer from one institution to another (Teeple 2005). Briana Holman, a first-team All-America in 2014, decided to transfer from LSU to Nebraska in January after a breakout sophomore season. Holman cited the Nebraska program's prestige and championship pedigree; she also considered Penn State University, who just won its sixth championship in eight years in 2014 (Sheldon 2015). LSU has 0 national championships to date, while Nebraska has three championships.

One last factor that is extremely influential is the coaching staff and their relationship with the student-athlete. Reynaud's study on the college choice factors of volleyball student-athlete's identifies the relationship with the coach as the most influential category of factors for players making their decision (1998). For student-athletes who are enrolled, their relationship with the coaching staff can make or break their experience; additionally, they face a difficult decision when a coach departs during their time in school.

Future Research

After reflecting on the results and conclusions of this research study, there are various opportunities for future research in many different directions. The most basic extension of the research would be to continually update the data set as each class completes its eligibility period. The current study was limited to cases up to 2010; student-athletes that enrolled after that date could still be involved in intercollegiate athletics, and thus could still transfer or leave their team.

Graph 5.1: Early Commitments by Recruiting Class



However, the number of Division I volleyball student-athletes is continuing to rise each year.

There were over 50 Division I student-athletes who committed more than 24 months before enrollment in the class of 2012; there are more than 100 who will enroll in the fall of 2015, and over 200 who have committed early for the class of 2016, according to RichKern.com.

Future research can also analyze roster retention and early recruiting by school demographics, such as program success and historical recruiting rankings from sources such as PrepVolleyball.com or VolleyballMagazine.com. The original inspiration for this article involves high-level coaches, such as Anson Dorrance, commenting on the negatives of early recruiting in his opinion. Kevin Hambly, head coach at the University of Illinois, has guided the Illini to the upper echelon of Division I volleyball. His comments on early recruited were point: “It’s a scary proposition” (Richey 2014). These elite-level coaches seem to be in a race with each

other, pushing the practice of early recruiting forward, with everyone else afraid that they will miss on recruits if they do not go younger (Richey 2014). A study that focuses in on the recruiting practices of these upper-level programs may elucidate the relationship between early commitment and retention, whereas this study spanned out to 327 Division I schools, not all of whom have the time, money and resources to make such recruiting pushes for young ages.

Conclusion

Recruiting is big business for college programs and student-athletes. College coaches must budget extensive time and resources to signing and retaining high-level recruits to achieve and maintain success. Meanwhile, Division I volleyball players start in seventh or eight grade to try and reach for the highest level (Popper, 2014). These athletes often compete year-round, going from school competition in the fall to club volleyball from November through July, in the hopes of earning a roster position or an elusive scholarship. Ideally, the extensive time devoted by both sides allows the student-athlete and program to find the proper fit that will emphasize a unique student-athlete experience. This focus on well-being is a fundamental tenet of the NCAA and a guiding principle for the organization and its bylaws (NCAA Division I Manual, 2.2, 2014).

This belief in student-athlete welfare, and a rising trend of early commitments and Division I volleyball transfers served as the inspiration to this study. Ultimately, the research and statistical analysis concluded that there was no significant influence on transfers or players leaving the team by early recruiting for the cases from 2005-2010. Early commitment seems to be one piece of a much larger predictive puzzle for this data set.

However, this does not mean that early recruiting is completely a positive endeavor. Beyond the single cases every coach can surely point to of a recruit that did not pan out, early

recruiting has distinct drawbacks. Firstly, early recruits cannot use their official visits yet, as those are reserved for senior prospective student-athletes (Kern 2005). The recruit is going through a transition developmental phase, and their mental and decision-making capabilities are growing, developing and changing (Abbott & Collins, 2004; ACT, 2007). Finally, early recruiting can cause specialization that leads to burnout and stunted motor skills, forcing athletes out of a sport well before enrolling in intercollegiate athletics is even in play (Wiersma, 2000).

Therefore, while the conclusions of this study are not that early recruiting is causing transfers or some other easily digestible or inflammatory headline, early recruiting may still be interfering with the student-athlete experience in a way that can call for intervention by the appropriate governing bodies.

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